

ECONOMIC IMPACT

OF SC'S FOREST PRODUCTS EXPORT CLUSTER





*Economic Impact of South Carolina's Forest
Products Export Cluster (March 2018)*

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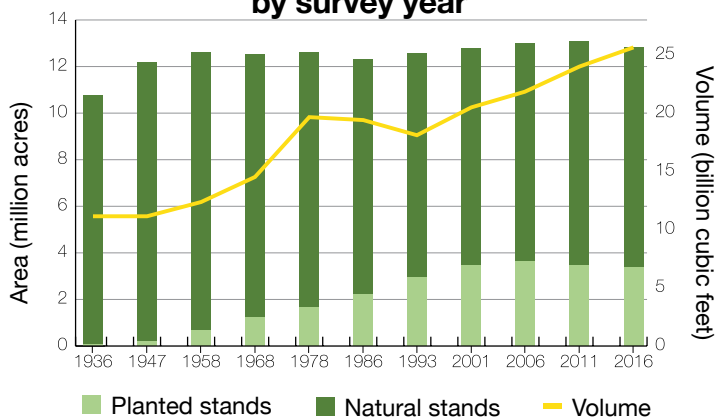
EXECUTIVE SUMMARY

With a sustainable forest resource, a healthy and diverse forest products manufacturing industry and efficient transportation infrastructure, forestry exports make a significant contribution to South Carolina's economy. This report explores a unique approach to quantify the value of the forest export cluster, including the manufacturing facilities that export, wholesalers/brokers, transporters, and port service providers. In this executive summary, we'll describe South Carolina's forest resource, our forest products manufacturing capacity, the economic contribution of South Carolina's forestry exports, and opportunities for export growth.

The forest resource

South Carolina's 12.75 million acres of timberland have been stable since new acres were added in the late-1980s and early-1990s due to government cost-share programs. Forests make up the dominant land use in South Carolina with roughly 2/3's of the state under tree cover. The forests are evenly distributed between the major hardwood and softwood forest types. Actively managed forests make up 24% of the state's forestland, but contribute nearly half of the annual harvested volume. Total standing volume of wood in South Carolina's forest is at a record high for both softwood and hardwood forest types (see Fig. 1).

Fig. 1—SC timberland area and live-tree volume by survey year



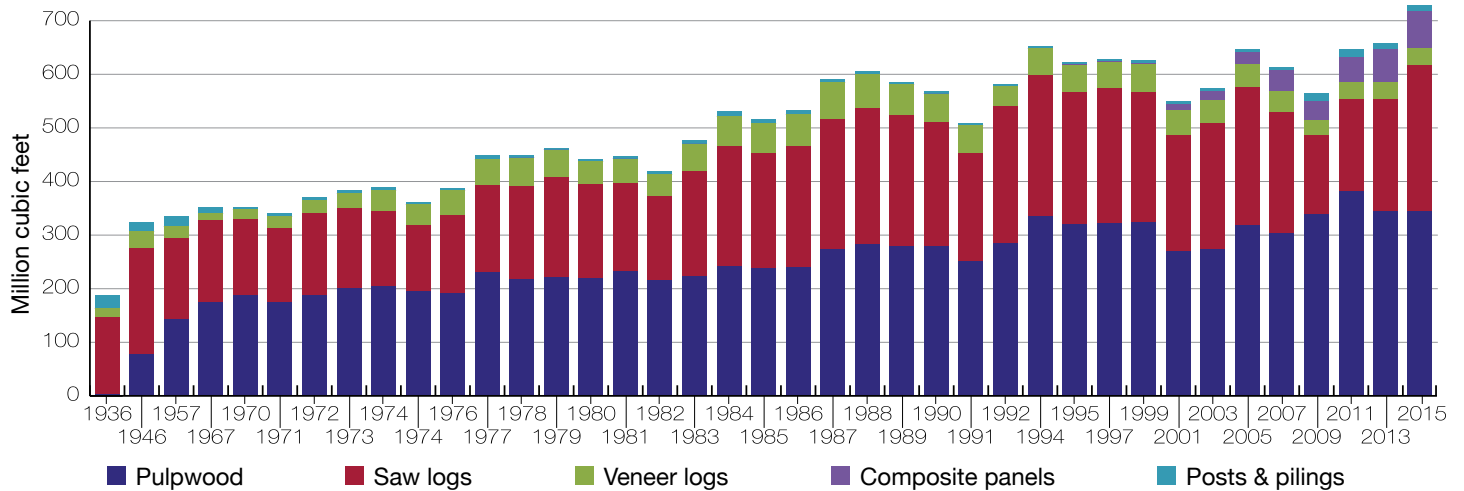
Timber products output (TPO)

There are 97 forest product mills in South Carolina producing over 700 million cubic feet of wood annually for primary products including pulp, paper, lumber, poles, panels, biomass and other commodity products. By volume and delivered value, pulp and paper is the leading forest product in South Carolina. The total volume of wood processed at in-state mills rose 9.2% from 2013 to 2015. The sawtimber and pulp & paper industry both increased production significantly from 2013 to 2015 with 13.8% and 11.1% increases, respectively. Oriented-strand board production has been one of the state's fastest growing industry sectors. Wood pellets and log export are emerging industry sectors (see Fig. 2).

Forestry's economic contribution

Forestry's contribution to South Carolina's economy has been estimated by the South Carolina Forestry Commission three times since 2006 using the Impact Analysis for Planning (IMPLAN) system. IMPLAN produces a suite of relevant metrics including total economic impact, value-added, employment and labor income. The total economic impact of forestry increased from \$17.4 billion in 2006 to \$21 billion in 2015 despite a significant decline during the Great Recession.

Fig. 2– Production of primary timber products in South Carolina, 1936-2015



An effort has been made to include all forestry-related sectors in IMPLAN economic analyses. 41 forestry-related IMPLAN sectors were combined into 6 aggregate sectors for analysis. However, previous IMPLAN studies stopped at the point of sale at the producing mill. Up until now, no effort had been made to evaluate the economic impact of forest product export.

Forest export cluster

South Carolina's forest export cluster includes the manufacturing forest industries, the wholesalers or brokers, the transporters, and the port service providers. The contribution of this cluster to the state's economy has not been quantified previously. A special study, funded by a USDA Forest Service grant, analyzed the importance of forest product exports in three Atlantic Coast states, Virginia, North Carolina, and South Carolina using 2015 IMPLAN data. Production and export data are averaged over a three year period from 2014 to 2016. All values are expressed in 2015 constant dollars.

Origin of movement vs origin of production

Origin of movement data is typically used in measuring port activities by project. However, origin of movement data inadequately represents industry's production for export from its point source. The source of production is often lost as forest products for export move across state lines and to the port. An alternative approach was developed using the origin of production to award export value based upon the state share of U.S. production for each product. Where origin of movement values exceeded origin of production values, the difference was considered a trans-shipment, i.e. production that originated in another state but shipped through South Carolina for export. Where origin of production values exceeded origin of movement values, the difference in this case was considered value produced for export from South Carolina, but shipped overseas from an out-of-state port. The table on the next page shows the origin of production and origin of movement values for SC as well as the difference between those two values.



Table 1–South Carolina Export Data*Origin of production (OP) and origin of movement (OM) export data. All values are f.a.s. port values*

NAICS code	Industry	Origin of Production Exports	Origin of Movement Exports	Difference (OP – OM)	Type of Difference
1132	Forest Nurseries and Gathering of Forest Products	\$20,991,664	\$20,337,017	\$654,646	Local Production Shipped out of State for Later Export
1133	Logging	\$114,911,972	\$25,030,190	\$89,881,782	Local Production Shipped out of State for Later Export
3211	Sawmills and Wood Preservation	\$129,934,596	\$45,540,319	\$84,394,277	Local Production Shipped out of State for Later Export
3212	Veneer, Plywood, and Engineered Wood Product Manufacturing	\$50,480,718	\$15,366,853	\$35,113,865	Local Production Shipped out of State for Later Export
3219	Other Wood Product Manufacturing	\$49,340,184	\$26,739,820	\$22,600,364	Local Production Shipped out of State for Later Export
3221	Pulp, Paper, and Paperboard Mills	\$952,672,682	\$1,022,685,999	-\$70,013,317	Trans-shipment
3222	Converted Paper Product Manufacturing	\$214,352,511	\$153,899,685	\$60,452,826	Local Production Shipped out of State for Later Export
3251	Wood-based Chemical Manufacturing	\$8,386,256	\$47,219,858	-\$38,833,602	Trans-shipment
3371	Household and Institutional Furniture and Kitchen Cabinet Manufacturing	\$26,433,378	\$19,625,497	\$6,807,881	Local Production Shipped out of State for Later Export
3372	Wood Office Furniture Manufacturing	\$1,803,567	\$654,893	\$1,148,675	Local Production Shipped out of State for Later Export
3379	Other Wood Furniture Related Product Manufacturing	\$14,165,132	\$1,859,494	\$12,305,638	Local Production Shipped out of State for Later Export

Based on this approach, approximately \$313.4 million worth of forest products are produced in South Carolina, but shipped through out-of-state ports. Conversely, \$108.9 million in forest products

manufactured in neighboring states are shipped through the Charleston Port. The shipments to other states prior to export primarily originated from the logging, sawmill, wood treating and wood composite industries.

Table 2–South Carolina Export Data

NAICS code	NAICS Industry	Leaving SC for International Export Elsewhere	Produced in SC, Exported from SC	Potential Capture Opportunity
1132	Forestry Products	\$584,100	\$17,543,900	3%
1133	Timber and Logs	\$82,141,500	\$22,559,300	364%
3211	Sawmills and wood preservation	\$70,638,200	\$36,146,900	195%
3212	Veneer, plywood, and engineered wood product manufacturing	\$29,827,900	\$12,421,100	240%
3219	Other wood product manufacturing	\$20,479,900	\$23,572,700	87%
3222	Converted paper product manufacturing	\$55,082,000	\$136,690,900	40%
3371	Household and institutional furniture and kitchen cabinet manufacturing	\$5,979,000	\$16,708,800	36%
3372	Office furniture (including fixtures) manufacturing	\$1,020,500	\$568,100	180%
3379	Other furniture related product manufacturing	\$4,130,800	\$1,650,700	250%

Forest product export contribution

The economic contribution of the forest product export cluster to local economies has not been quantified heretofore. Like other IMPLAN analyses, export contributions can be attributed to the direct foreign export sales by forest industry as well as the indirect and induced impacts of those sales as they ripple through the local economy. IMPLAN supplies a suite of metrics, including total economic impact, value-added and employment to describe an industry's impact to the local economy.

The total economic output of the forest products export cluster in South Carolina was \$2.46 billion in 2015 dollars. \$1.52

billion is directly associated with business transactions conducted by the forest products export cluster.

The difference, just under \$1 billion, is attributed to the impact of these business transactions as they ripple through the local economy. For every \$1 million of forest industry exports, sales generated an additional \$620,000 of economic activity across South Carolina. The total value-added contribution of South Carolina's forest export cluster was \$1.05 billion in 2015 dollars.

The direct value-added contribution of the cluster was \$557.6 million. The remaining \$492 million is attributed to indirect and induced economic activity. \$1 million dollars of forest industry export related value-added generated an additional \$880,000 contribution to South Carolina GDP.

The total employment of South Carolina's forest export cluster was 10,718 in 2015. Direct employment

by the forest products export cluster was 4,270 with the remaining 6,448 jobs accounted for by associated industry sectors. Forest industry exports supported 1,510 jobs in other sectors for every 1,000 forest industry jobs.

Conclusion

The forest products export cluster contributes almost \$2.5 billion to South Carolina's economy each year. Centrally located along the South Carolina coast, Charleston Port is the primary avenue for forest product exports in the state and forest products typically make up the port's largest export by volume.

With the Savannah and Wilmington ports just across neighboring state lines, a significant percentage of forest products manufactured

in South Carolina are not exported through the Charleston Port.

A unique approach of comparing the origin of movement to the origin of production for export data quantified \$313.4 million in South Carolina manufactured forest products that are exported from outside the state.

These products include logs, lumber, pellets, wood chips and other products. Further research could identify forest products that could be shipped through Charleston and strategies to help grow South Carolina's forest products export cluster.

Forestry is a critical component of South Carolina's rural economy and the Charleston Port creates an opportunity to expand the market for South Carolina forest products globally.

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FORESTRY'S IMPACT

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**BILLION
DOLLAR
ECONOMIC IMPACT
ON SOUTH CAROLINA**



>84,000 JOBS



\$1.3B IN EXPORTS



#1 HARVESTED CROP



#1 EXPORT COMMODITY



#2 MANUFACTURING SECTOR
in jobs and labor income

